

SIMPLIFIED TOP OXIDE LATE PROCESS

Abstract

An improved TOL process with a partial lithography-assisted sacrificial oxide strip to prevent arsenic out-diffusion from polysilicon studs during gate oxidation. The invention prevents arsenic out-diffusion during gate oxidation from polysilicon studs by completely covering polysilicon studs with an oxide layer during gate oxidation, thereby maintaining nitrogen amounts in the thin gate oxide regions, and hence, maintaining gate oxide thickness and avoiding any increase in V_t 's for thin gate devices.